

LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

Claims 1-22 (Canceled).

Claim 23. (Currently amended) A method of recovering a lignocellulosic element from a composite board material comprised of a matrix of adhesively bonded lignocellulosic elements, the method comprising

(a) generating electromagnetic radiation,

(a) (b) swelling the composite board material by subjecting the material to a combination of (i) the generated electromagnetic radiation and (ii) soaking or immersion in a liquid medium, wherein the electromagnetic radiation has a frequency in the range of from 896 ± 20 MHz to 2450 ± 25 MHz or a frequency in the range of from 100 kHz to 100 MHz to yield treated composite board material,

wherein the composite board material is medium density fibreboard (MDF) comprising a matrix of the lignocellulosic elements which are in the form of lignocellulosic fibres bonded together by means of adhesive,

wherein the generated electromagnetic radiation at least partially hydrolyses the adhesive and in combination with said soaking or immersion facilitates swelling of the board material, and

(c) mechanically agitating the treated board material in the liquid medium to separate said lignocellulosic fibres from each other to yield a dispersion of said lignocellulosic fibres, and

(b) (d) recovering the said lignocellulosic element fibres .

Claim 24. (Previously presented) A method as claimed in claim 23, wherein the electromagnetic radiation has a frequency of 896 ± 20 MHz.

Claim 25. (Previously presented) A method as claimed in claim 23, wherein the electromagnetic radiation has a frequency of 2450 ± 25 MHz.

Claim 26. (Previously presented) A method as claimed in claim 23, wherein the electromagnetic radiation has a frequency in the range of from 10 MHz to 50 MHz.

Claim 27. (Previously presented) A method as claimed in claim 23, wherein the power of the electromagnetic radiation is in the range of from 500 W to 30 kW.

Claim 28. (Previously presented) A method as claimed in claim 23, wherein the liquid medium comprises water.

Claim 29. (Previously presented) A method as claimed in claim 23, wherein the liquid medium comprises an organic or inorganic solvent.

Claim 30. (Previously presented) A method as claimed in claim 23, wherein the board material is initially subjected to the electromagnetic radiation (step (i)) and then immersed in the liquid medium (step (ii)).

Claim 31. (Previously presented) A method as claimed in claim 23, wherein the liquid medium is at elevated temperature.

Claim 32. (Previously presented) A method as claimed in claim 31, wherein the liquid medium is at a temperature of from 60° to 90°C.

Claim 33. (Previously presented) A method as claimed in claim 23, wherein the board material is immersed in the liquid medium and subjected to the electromagnetic radiation while immersed.

Claim 34. (Previously presented) A method as claimed in claim 23, wherein the treated board material is subjected to mechanical agitation in the liquid medium to produce a fibrous suspension.

Claim 35. (Previously presented) A method as claimed in claim 34, wherein the lignocellulosic element is recovered from the fibrous suspension.

Claim 36. (Previously presented) A method as claimed in claim 35, wherein the lignocellulosic element is recovered by drying of the suspension.

Claim 37. (Previously presented) A method as claimed in claim 23, wherein the board material is lignocellulose based board material and is or comprises a particle board or fibre board.

Claim 38. (Previously presented) A method as claimed in claim 37, wherein the lignocellulose based board material is or comprises Medium Density Fibreboard.

Claim 39. (Previously presented) A method as claimed in claim 23, wherein the electromagnetic radiation comprises microwaves.

Claim 40. (Previously presented) A method as claimed in claim 23, wherein the electromagnetic radiation comprises radio frequency (RF) waves.

Claim 41. (Cancelled)

Claim 42. (Currently amended) A method of recovering a lignocellulosic element of a composite board material comprised of a matrix of adhesively bonded lignocellulosic elements, the method comprising

(a) generating electromagnetic radiation,

~~(a)~~ (b) swelling the composite board material by (i) subjecting the board material to the generated electromagnetic radiation having a frequency in the range of from 10 MHz to 2500 MHz and a power level in the range of from 500 W to 30 kW for between 30 and 90 seconds, followed within 5 to 15 seconds by (ii) soaking or immersion in a liquid medium at a temperature in the range of 60 C to 90 C for between 10 and 25 minutes, to yield treated composite board material,
wherein the composite board material is medium density fibreboard (MDF)
comprising a matrix of the lignocellulosic elements which are in the form of
lignocellulosic fibres bonded together by means of adhesive,
wherein the generated electromagnetic radiation at least partially
hydrolyses the adhesive, and
(b) mechanically agitating the board material in the liquid medium to produce a fibrous suspension, and
(c) recovering the lignocellulosic fibres ~~element~~ from the fibrous suspension.

Claim 43. Canceled.

Claim 44. (Canceled) The method of claim 23 wherein the composite board material is a particle board or fibre board selected from the group consisting of medium density fibreboard, chip board, hard board, soft board, oriented strand board, flax board, and wood chip board.

Claim 45. (Canceled)